

## **THE CLAIMS**

Having thus described our invention, what we claim new, and desire to secure by Letter Patent is:

1. A system for transcoding compressed video signal, including a plurality of pictures, comprising:

an estimator to gather information and estimate the signal characteristics about the video signal;

a decoder to completely or partially decode the compressed video signal, and

an encoder to compress the reconstructed video signal according to a coding scheme devised on the estimated signal characteristics from the estimator.

2. A transcoding system according to claim 1, wherein said estimator is a look-ahead estimator which gathers information from the incoming compressed video signal and the decoder to estimate the signal characteristics of both the future incoming pictures and current picture.

3. A transcoding system according to claim 1, wherein said estimator derives the signal complexity of the current picture being transcoded.

4. A transcoding system according to claim 2, wherein said estimator estimates the complexity of each portion of the picture.

5. A transcoding system according to claim 4, wherein said portion is a slice of the picture.

6. A transcoding system according to claim 4, wherein said portion is a macroblock of the picture.

7. A transcoding system according to claim 3, wherein said complexity is estimated by a function of the total bits and the average quantization step size used to code the picture in the first coding scheme.

8. A transcoding system according to claim 3, wherein said complexity is estimated by a function of the total bits and average quantization step size used to code the portion of the picture in the first coding scheme.